

CLAIMS

1. A permanent magnet rotor assembly for a brushless electric motor, comprising:
at least two main magnetic poles, disposed on a periphery of a rotor, each of said
5 at least two main magnetic poles having an opening angle A which covers $N/2$ times an angle of a
stator segment, with N being an odd number that is greater than or equal to 3, and that has a the
closest value smaller than $360/P$ degrees, with P being the number of said at least two main magnetic
poles, with each of said at least two main magnetic poles having a central section R1 and two end
10 sections R2, with R1 having an opening angle A1 which covers $N/2$ times said angle of each of said
stator sections, with N being an odd number greater or equal to 3, and A1 being smaller than said
opening angle A.

2. The permanent magnet rotor assembly for a brushless electric motor according to
claim 1, wherein each of said at least two main magnetic poles has a permanent magnet composed of
15 two plates with two ends located in central positions and protruding outward.

3. The permanent magnet rotor assembly for a brushless electric motor according to
claims 1 or 2, wherein for each of said at least two main magnetic poles, said central section and said
end sections are connected by straight sections.

4. The permanent magnet rotor assembly for a brushless electric motor according to
claims 1 or 2, wherein each of said at least two main magnetic poles has outer rims oriented parallel
20 to outer edges of said permanent magnet thereof.